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Chapter 1: Introduction

1.1 General Description

This DVR is designed specifically as a digital surveillance product that can be used for security purposes. It uses an embedded processor and embedded operating system with the latest technologies in the industry, including video and audio encoding and decoding, high-capacity hard disk recording, and TCP / IP network technology. This makes the system operations very stable. This DVR works as standalone, and also can be connected with other devices to form a network of security monitoring systems. This DVR can be used in a wide variety of industrial, commercial, and residential applications including public transportation, power station and water conservancy facilities, banks, factories, warehouses, restaurant, small business and individual homes.

1.2 Technical Parameters

Model	4 channel	8 channel	16 channel
Operating system	Embedded Linux Operating System		
System resource	960H@120 Frames	960H@240 Frames	960H@480 Frames
Video Format	H.264 Compression		
Audio Format	ADPCM		
Recording Mode	Manual, Schedule, Alarm, Motion detection		
Video Search	Time search, Channel search, Record mode search		
Backup	USB Device / Network/Mobile hard disk(32GB max)		
Video Input	4BNC	8BNC	16BNC
Video Output	1 BNC,1 VGA, 1 HDMI	1 BNC,1 VGA, 1 HDMI	1 BNC,1 VGA, 1 HDMI
Audio In/Out	4 / 1 channel	8 / 1 channel	16 /1 channel
Preview	960H @ 30FPS/CH		
Recording Quality	960H(960x576 / 960x480) / D1 (704×576 / 704×480) CIF(352×288 / 352×240) / QCIF(176×144 / 176×120)		
Recording	960H @ 30FPS/CH		
Playback	960H @ 30FPS/CH		
Local playback	4 channel	8 channel	16 channel
PTZ	RS485		
Storage	1 SATA up to 4TB	2 SATA up to 8TB	2 SATA up to 8TB
Network Interface	RJ45, 10 / 100M		
USB	2 USB2.0		
Power	DC 12V		

1.3 Checking Before Use & HDD Installation

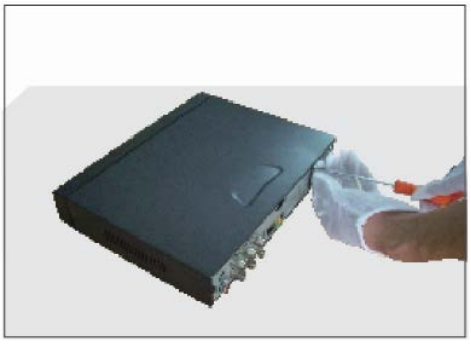
1.3.1 Checking Before Use

Firstly, please check if there is any damage to the package when you receive the product

Secondly, on the top of the DVR, please tear off the protective film

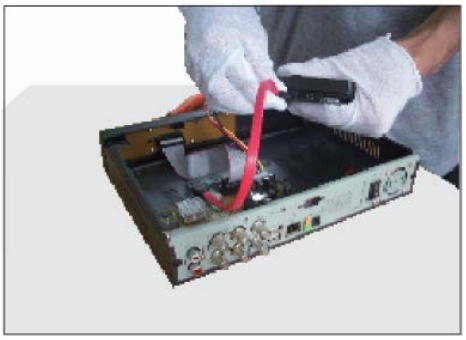
1.3.2 HDD Installation

Please make sure to install HDD before you use the DVR.

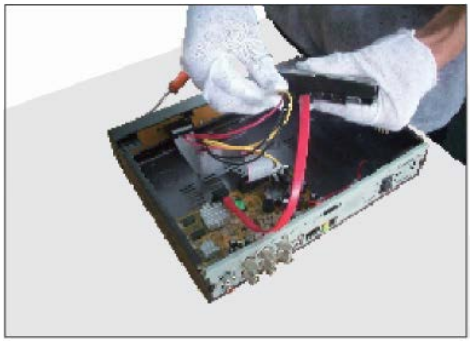


1. Unscrew the top cover

2. Connect SATA data cable from HDD to Motherboard



3. Connect SATA power cable from HDD to Motherboard



4. Place HDD into the slot

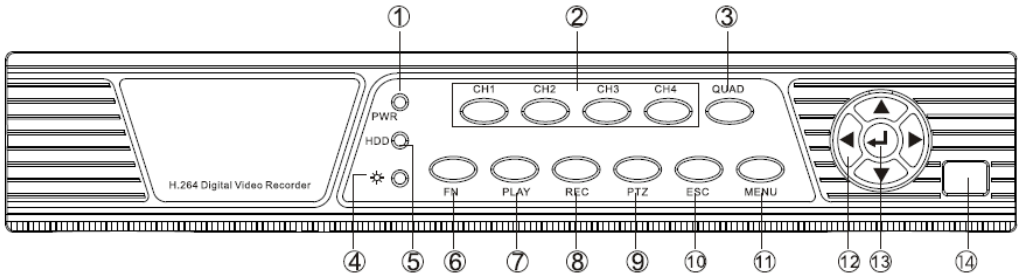
5. Screw in the HDD

6. Screw in the top cover

Chapter 2: Front/Rear Panels and Remote Control

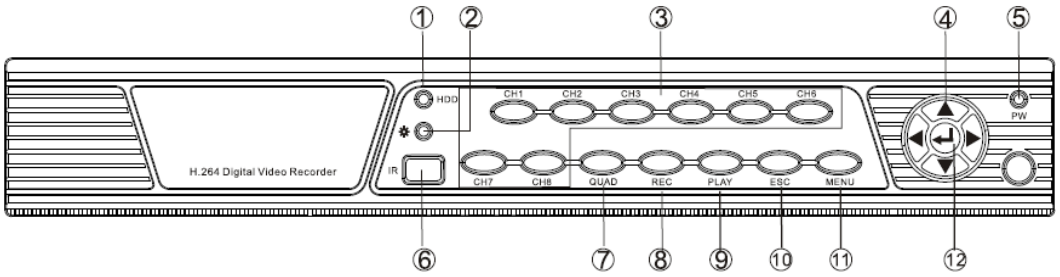
2.1 Front Panel

4 Channel DVR Front Panel：



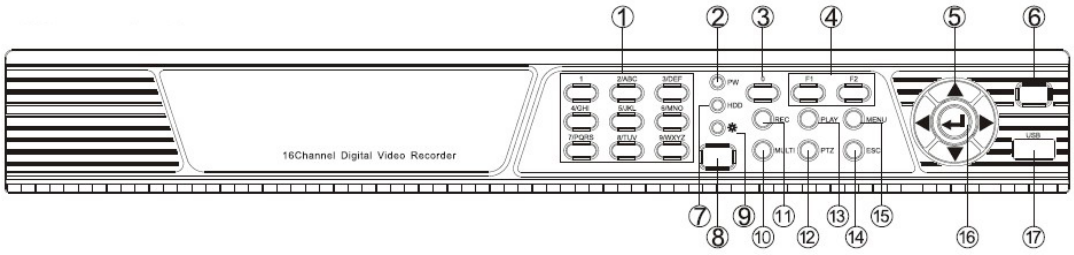
1．PWR：Power Status Light
2．CH1~CH4：Single-Screen Switch
3．QUAD：Multi-Screen Switch
4. ☼ System Operating Status Light
5．HDD：HDD Status Light
6．FN：Auxiliary Function
7．PLAY：Video Playback
8. REC：Manual Recording
9. PTZ：PTZ control
10. ESC：Exit
11. MENU
12. ◀▶▲▼：Direction Key
13．↵:Confirm Key
14．IR Receiver

8 Channel DVR Front Panel:



1．HDD：HDD Status Light
2．☼: System Operating Status Light
3．CH1~CH8：Single-Screen Switch
4. ◀▶▲▼: Direction Key
5．PWR：Power Status Light
6．IR：IR Receiver
7．QUAD：Multi-Screen Switch
8．REC: Manual Recording
9．PLAY：Video Playback
10．ESC：Exit
11．MENU
12．↵:Confirm Key

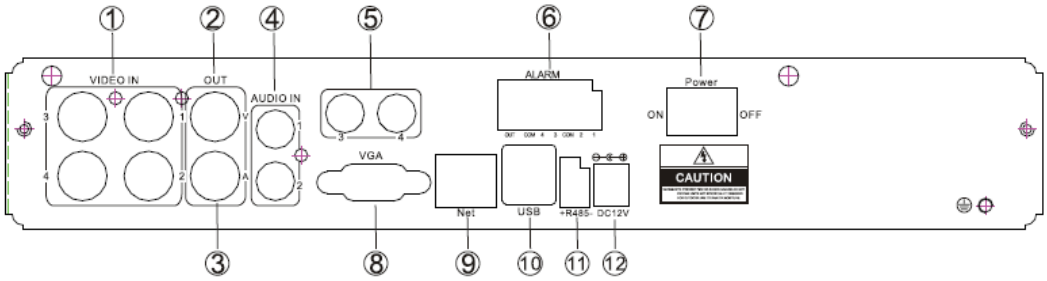
16 Channel DVR Front Panel Description:



1．1~9：Number Keys
2．PW: Power Status Light
3．0：Number Key
4．F1、F2：Auxiliary Keys
5．▲▼◀ ▶:Direction Key
6．POWER: Power
7．HDD：HDD Status Light
8．IR：IR Receiver
9．：System Operating Status Light
10．MULTI：Multi-Screen Switch
11．REC: Manual Recording
12．PTZ: PTZ control
13. PLAY：Video Playback
14. ESC：Exit
15. MENU
16. :Confirm Key
17.USB

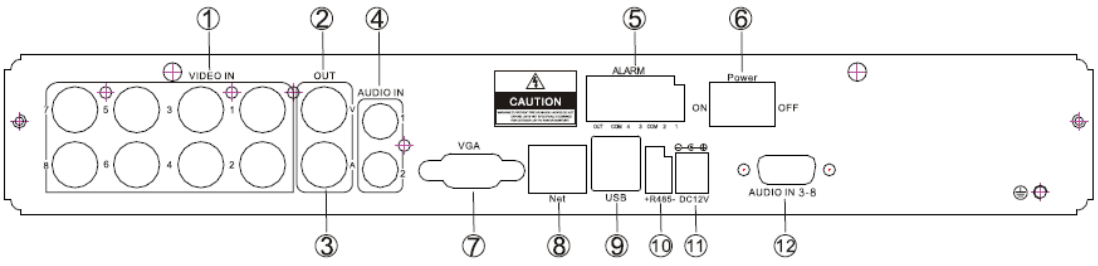
2.2 Rear Panel

4 Channel DVR Rear Panel：



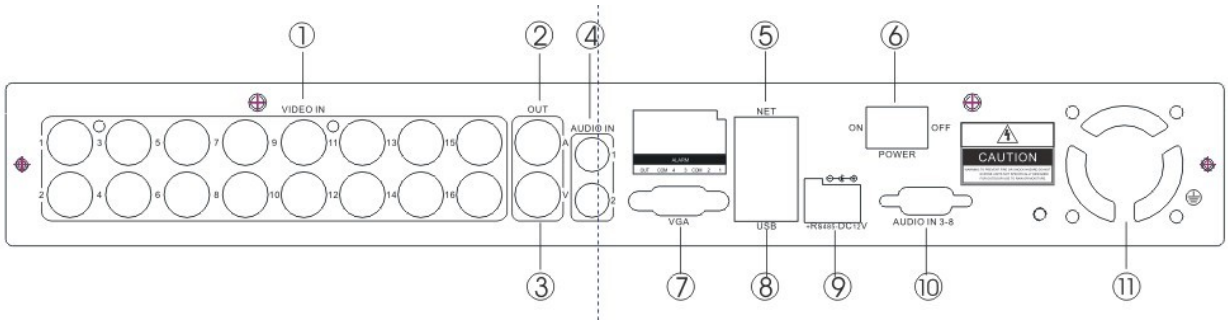
1. VIDEO IN l-4: Video Input Connectors
2. VIDEO OUT: Video Output Connector
3. AUDIO OUT: Audio Output Connector
4. AUDIO IN l-2: Audio Input Connectors
5. AUDIO IN 3-4: Audio Input Connectors
6. Alarm: Alarm Input (Optional)
7. POWER: Power Switch
8. VGA: Video Output Connector
9. NET: RJ-45 Standard Network Connector
10. USB: Standard USB Connector
11. RS-485: 485 PTZ Connector
12. DC12V: 12V (DC) Power Connector

8 Channel DVR Rear Panel Description：



1. VIDEO IN l-8: Video Input Connectors
2. VIDEO OUT: Video Output Connector
3. AUDIO OUT: Audio Output Connector
4. AUDIO INl-2: Audio Input Connectors
5. Alarm: Alarm Input (Optional)
6. POWER: Power Switch
7. VGA: Video Output Connector
8. NET: RJ-45 Standard Network Connector
9. USB: Standard USB Connector
10. RS-485: 485 PTZ Connector
11. DC12V: 12V (DC) Power Connector
12. AUDIO IN3-8: Audio Input Connectors

16 Channel DVR Rear Panel Description：



1. VIDEO IN l-16: Video Input Connectors
2. VIDEO OUT: Video Output Connector
3. AUDIO OUT: Audio Output Connector
4. AUDIO INl-2: Audio Input Connectors
5. NET: RJ-45 Standard Network Connector
6. POWER: Power Switch
7. VGA: Video Output Connector
8. USB: Standard USB Connector
9. RS-485: 485 PTZ Connector
10. AUDIO IN3-8: Audio Input Connectors
11. DC12V: 12V (DC) Power Connector

2.3 Remote Control

POWER	Power Switch
DEV	Device Button：after pressing "DEV", input the same number as the device number and press “ENTER” to save the setting. The DVR can now be operated by the remote
0-9	Number buttons
MENU	Menu Button; also used to clear motion detection setting
ESC	Exit
▲	In MENU mode: upwards; in PTZ mode: move PTZ camera upwards
▼	In MENU mode: downwards; in PTZ mode: move PTZ camera downwards
◀	In MENU mode: left; in PTZ mode: move PTZ camera left
▶	In MENU mode: right; in PTZ mode: move PTZ camera right
ENTER	Select Key
PLAY	Video playback
FN	Auxiliary Function

REC	Manual Recording
VIEW	Multi-screen Switch
◀◀	Fast Rewind
▶▶	Fast Forward
■	Pause

Chapter 3: Operating Instructions

3.1 Turning On

Use Power Switch on the rear panel to turn on. The PWR (Power Status Light) on the front panel will turn on and ☼ (Operating System Status Light) will be flashing.

3.2 Preview

In the preview interface, you can see the system date, time, and channel names. Press the corresponding number key on the front panel or double click the left mouse button to preview a single channel; Press "QUAD" key in the front panel or double click the left mouse button to return to multi-channel preview.

3.3 Menu Navigation

3.3.1 Entering the Menu

【MENU】: DVR's Main Menu 【PLAY】: Video Playback

【REC】Manual Recording【PTZ】PTZ Control.

Noted: Default password is None/Empty, so just click "Enter" to enter into MENU

3.3.2 Menu Operations

（1） Check Box: "√" indicates valid, "□" indicates invalid

Use Direction Key to move:【↑】【↓】【←】【--->】; Use Enter Key to select【↵】.

You can also click the left mouse button to select

（2） Drop-down Menu:

Use 【↑】, 【↓】 keys to move; Use Enter Key to select【↵】.

You can also click the left mouse button to select

（3） List: the lists show search results

Use 【↑】, 【↓】 keys to move; Use Enter Key to select【↵】.

You can also click the left mouse button to select

（4）Edit Windows: Enter the contents into edit windows

a) Use panel key 【↑】【↓】【←】, 【→】 to move to Edit window and press "↵" key,

and then the on screen keyboard will pop up; or move the mouse to Edit window and left click to pop up the on screen keyboard.

Use Direction Keys and Enter Keys to choose numbers and letters on the screen pop-up keyboard, or click the left mouse button to choose.

b) After input the letters and numbers, click 【OK】【CANCEL】 button or button【ESC】 to safe or exit

（5） Button: used to implement a specific function or enter the next setup menu, click【OK /↵】 key and the left mouse button.

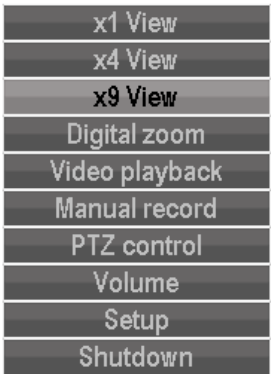
3.3.3 Exiting the Menu

Press 【MENU】, 【ESC】 or the right mouse button to exit the menu mode

Click the right mouse button and return to the previous menu level.

3.4 Main Menu Introduction

Pressing MENU key or right mouse will pop-up the main menu. Main menu consists of the following three components



Preview mode: Select corresponding preview mode in the menu column.

Shortcut menu: In menu column, the options are: digital zoom, video playback, manual record, PTZ control, volume, setup, and shut down.

Setup menu: Including video playback, video backup, system setup, system tools, system info, and system logout.

3.5 Video Playback

Click "setup" menu and turn into "video playback" interface.

3.5.1 Video Search

Channel: To choose the target channel by clicking the check box.

Record mode: To choose the record mode by clicking the check box

Search time: Input the starting and finishing time into edit box

Search: Click "search" to begin video file searching and to show the files. Red indicates time recording, green indicates MD recording, yellow indicates sensor recording.

Playback: Choose playback and turn into playback interface. In the search list window, choose the time by using up, down, left, right key or by moving the mouse. Click 【↵】 or left mouse to enter "video playback" interface

Cancel: back to previous menu.

3.5.2 Playback Toolbar

Select the playback file or time playback file, it will turn into video playback interface.

Playback toolbar: it will show below the playback interface. Each channel can be magnified or narrowed by clicking the left mouse.

Stop play：click

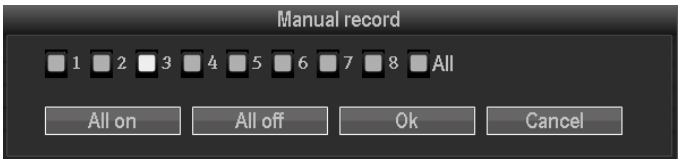
to stop the video and turn back to playback interface.

Pause/play: Click to pause the playback video, click to continue the playback video.

Fast forward： Click to fast forward the video

Exit playback：click “ESC” or to exit the playback video;

3.6 Manual Recording



In the shortcut menu, click manual record or click 【REC】 to enter and setup the manual record interface.

Manual record menu includes several parts:

Channel：”☑” indicates recording channels；“□”indicates non-recording channels。

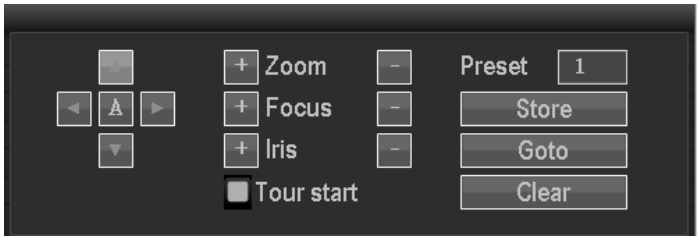
All on：start recording all the channels.

All off：stop recording all the channels.

OK：confirm and exit

Cancel：Click Cancel to exit the manual record interface and back to main menu.

3.7 PTZ Control



Choose the "PTZ Control" from Menu.

PTZ Control menu includes: direction control, auto pan scan, zoom, focus, Iris.

3.8 Setup

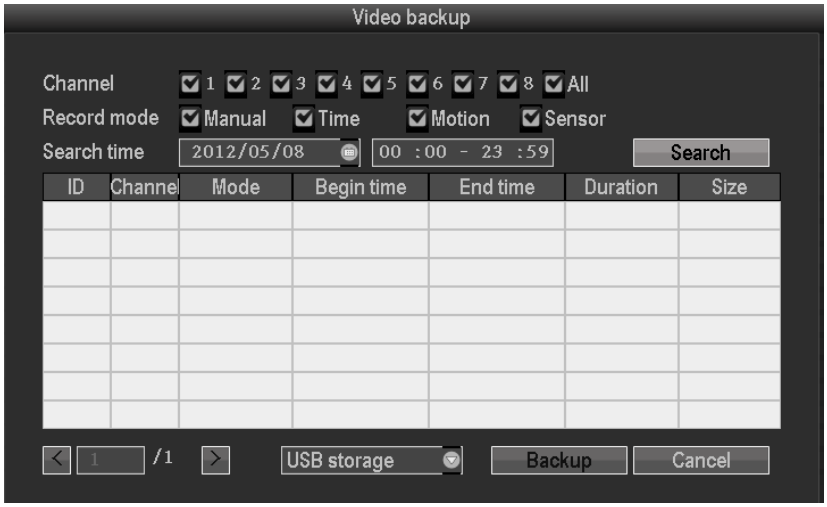
Click "Setup" in the Menu: video playback, video backup, system setup, system tools, system info,

and system logout.

3.8.1 Video Playback

That is the playback interface:

3.8.2 Video Backup



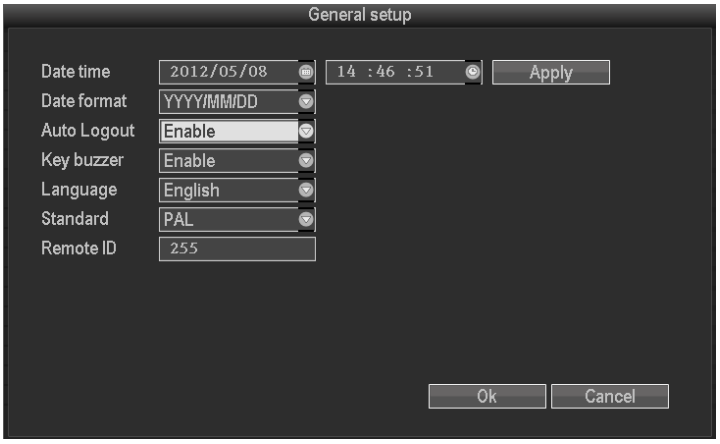
Choose the channel, and record mode; setup the search time, then begin searching the file. After choosing the needed file from the list, click backup and ok, wait until process bar reaches 100% and shows backup success.

Note：USB driver must be FAT32 format when backing up the file.

3.8.3 System Setup

In the Setup menu, Choose “System setup” and click into sub menu. It includes: General setup, Encode setup, Record setup, Network setup, Screen setup, Video detection, PTZ setup, Sensor setup.

3.8.3.1 General Setup



Choose the "General setup":

Time： The live time when previewing

Date Format: “YYYY/MM/DD” “DD/MM/YYYY” “MM/DD/YYYY”

Auto Logout: System logs out automatically after 10 minutes of no activity

Key Buzzer： Enable key sound on the controller and on front panel. Disable it if you do not want key sound.

Language： There are multiple choices

Video standard： PAL and NTSC are available.

Remote ID： Remote control is connected to DVR by this remote ID.

3.8.3.2 Encode setup

Select “Encode setup” in System setup.

Channel: Choose the channel to set up

Stream： Choose the stream: "main stream" or "sub stream" to set up

Encode mode： Choose the encoding option that you need: "video only" indicates only encoding for video; "AV stream" indicates encoding both video and audio.

Bitrate mode： Choose the bitrate mode you need: "constant bitrate", "variable bitrate", and "average bitrate"

Encode format： Encoding resolutions: （QCIF）176*144, （CIF）352*288, (HD1)576*288, （D1）704*576, and (960H) 960*576

Bitrate： Change encoding bitrate: the higher bitrate, the better image, the larger HDD space needed

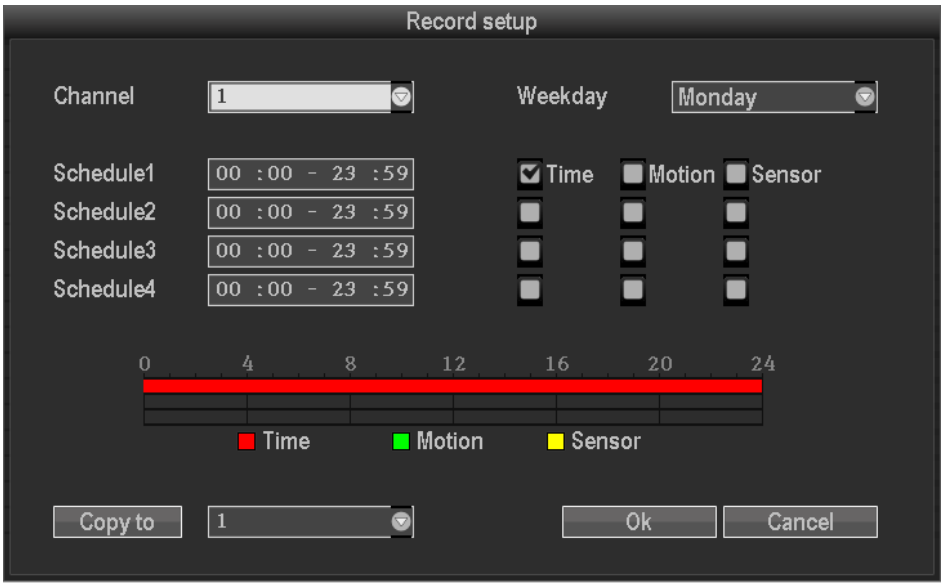
Quality： Image quality options

Frame rate: Frame size options. The higher frame rate, the better image, the larger HDD space needed

Copy to: Select the channels (single channel or all channels), click "copy to" & "ok ", and then system saves the current settings to these channels.

Cancel: the settings will not save and exit back to Menu.

3.8.3.3 Record Setup



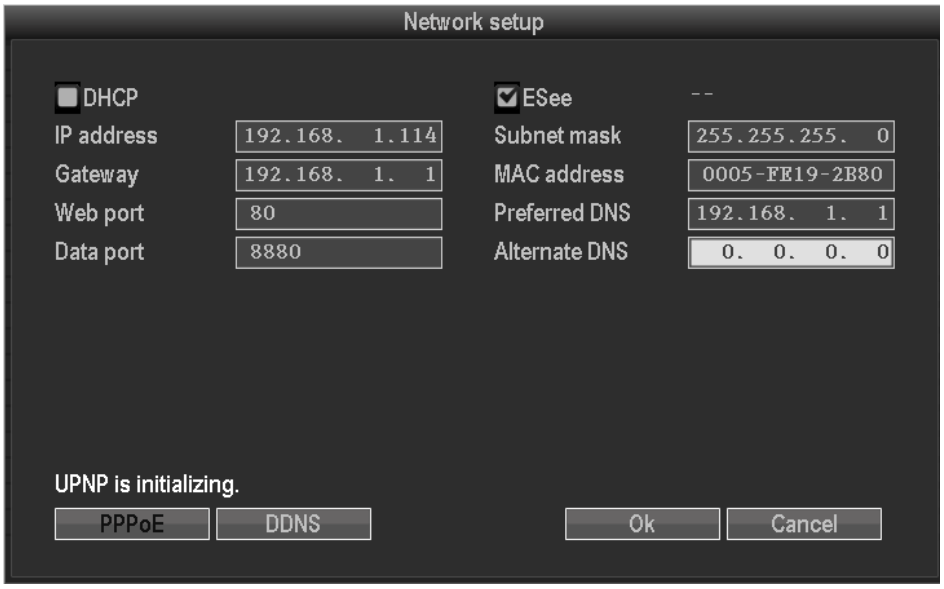
Channel: Choose the channel to set up

Weekday: Choose the days to set up; "ALL" indicates all 7 days in a week.

Recording Mode and Time: 4 different schedules time periods per day . "Time" recording in red, "Motion" recording in green, "Sensor" recording in yellow; "☑' indicates working, "□" indicates invalid. The bottom time line indicates the different recording modes from 0~24 o'clock.

Copy to： Select the channels (single channel or all channels), click "copy to" & "ok ", and then system saves the current settings to these channels.

3.8.3.4 Network Setup



MAC address： Shows the device's MAC address

DHCP： DVR would automatically obtain an IP address "☑' indicates active DHCP; "□" indicates

inactive DHCP

IP address： the IP address must be unique and cannot be conflicted with other device's IP address on the same network segment

Subnet Mask： subnet address for the network segment.

Gateway： need to set the gateway address to achieve communication between the different network segments.

DNS address： devices used PPPOE protocol to access network to gain a dynamic IP address

HTTP port： port number for IE browser visit, default port is "80"

SavvyID (Esee)： after connecting internet, click"☑SavvyID (Esee)" to gain a SavvyID, which can be used in IP remote monitoring in SavvyID network server, client, web browser, and mobile apps.

PPPOE configuration:

Start using： "☑PPPOE"indicates to start up PPPOE dial-up. "□" indicates not to start up

PPPOE user： input the user name of ISP

PPPOE password: input the password of ISP

After the page setup is completed, click "'OK" to save the changes; click "cancel" to Exit without saving.

DDNS setting: automatic analytical function of dynamic domain name, supported dyndns.com, no-ip.com, etc.

In the "network setup" menu, click "DDNS"

Start using: "☑" indicates DDNS dynamic domain services start using; "□"indicates no

Select the right network server and input user name, password and domain name (edit method - please refer to 3.3.2(4))

3.8.3.5 Screen Setup

Channel： Choose the channel to set up

Title： Change the name of channel

OSD Title: "☑" indicates display the channel title, "□"indicates do not display the channel title

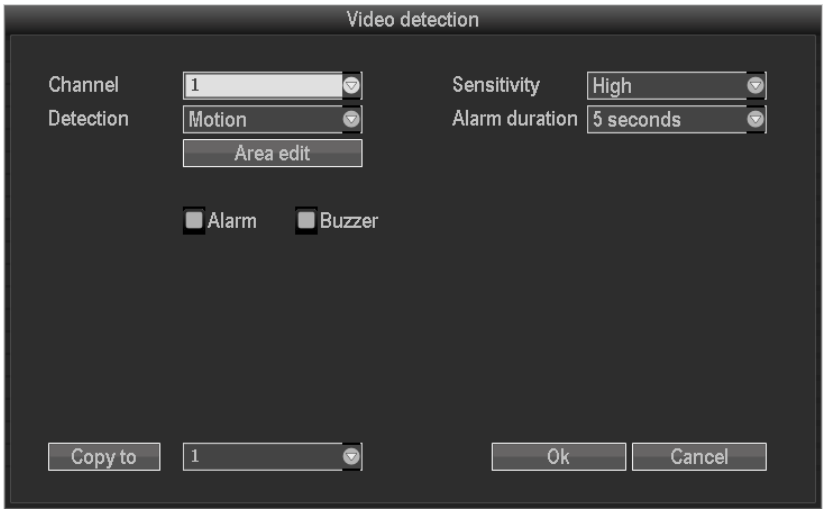
OSD Alpha: Adjust OSD menu transparency

OSD time: "☑" display system time; "□" do not display system time

Auto Switch： the dwell time of auto switching preview. It can be single screen or 4 channel screens.

After the page setup is completed, click "'OK " to save the changes; click "cancel" exit without saving.

3.8.3.6 Video Detection



Channel： Choose the channel to set up

Sensitivity：Change the sensitivity of motion detection

Detection type： Select detection type: motion, video loss, video cover

Alarm duration: Time of alarm when video detection was triggered

Area edit: Set motion detection area

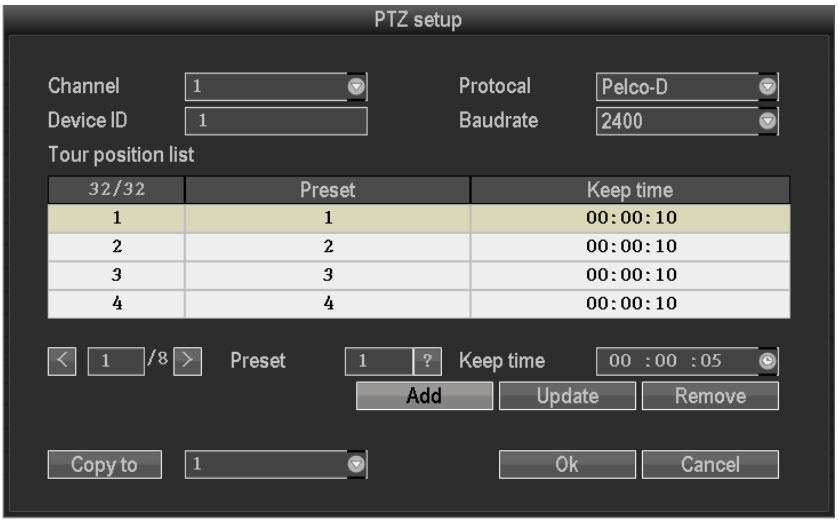
Alarm： "☑"indicates active alarm; "□"indicates inactive alarm

Buzzer: "☑"indicates active buzzer; "□"indicates inactive buzzer

E-Mail notice: "☑" indicates sending E-Mail when video detection was triggered "□" indicates cancel the E-Mail sending

Copy to： Select the channels (single channel or all channels), click "copy to" & "ok ", and then system saves the current settings to these channels.

3.8.3.7 PTZ Setup



Channel： Choose the channel to set up

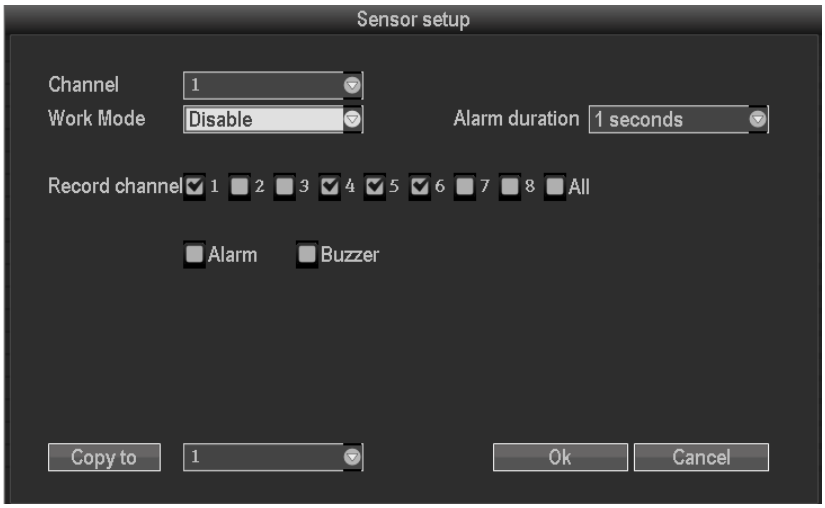
Protocol: Selected protocol type that is same as PTZ's protocol

Device ID: Type in PTZ's address

Baud rate: Selected baudrate that is same as PTZ's baudrate

Copy to： Select the channels (single channel or all channels), click "copy to" & "ok ", and then system saves the current settings to these channels.

3.8.3 8 Sensor Setup



Channel： Choose the channel to set up

Work mode: Choose the alarm type of sensor

Alarm duration: Set up alarm duration time

Recording channel: Choose the channels that will record when sensor was triggered

Alarm: "☑" enable alarm, "□" close alarm

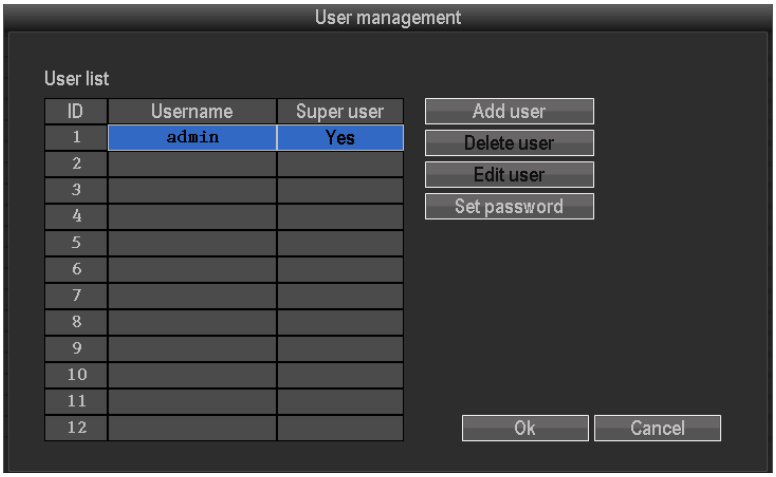
Buzzer: "☑" enable buzzer, "□" close buzzer

Copy to： Select the channels (single channel or all channels), click "copy to" & "ok ", and then system saves the current settings to these channels.

3.8.4 System Tools

In main menu, choose "system tool": User management, HDD management, System maintenance and Factory setting

3.8.4.1 User Management



Add user: Add a new user name, and set a new password, or it can be the default password. Choose authority level to this user: "☑" users can process it, "□" users cannot process it.

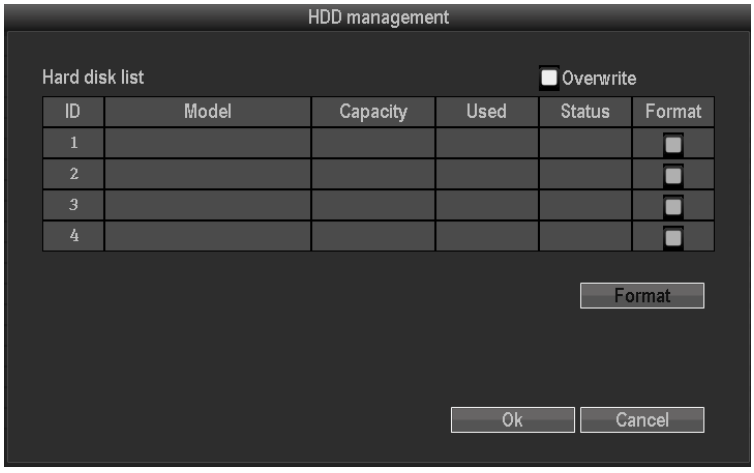
Delete user: Delete the selected user

Modify user: Modify the selected user

Set password: Set password

After the setting, click "OK" to save and exit, or click to "cancel" to exit without saving

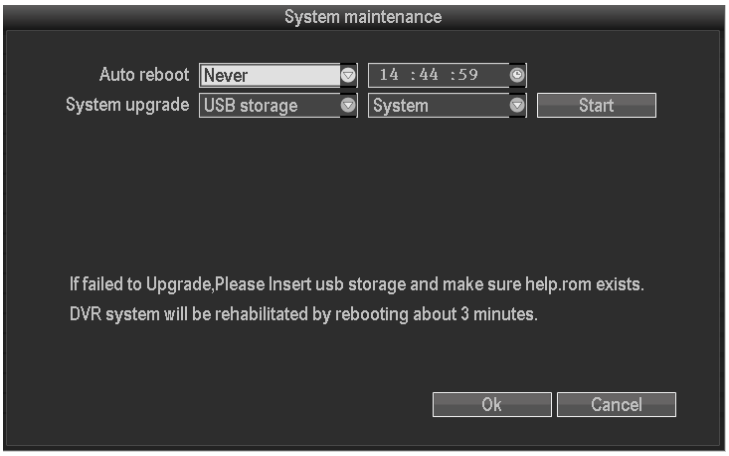
3.8.4.2 HDD Management



Overwrite: "☑" Earliest recording files will be overwritten when the disk is full, "□" Not overwritten.

Format: "☑" HDD would be formatted, "□"HDD would not be formatted, when you click "Format",

3.8.4.3 System Maintenance



Auto reboot: Setting an automatic reboot time, it can set "Saturday to Sunday". "Never" indicates do not reboot automatically.

System upgrade: Copy firmware to the root directory of USB drive, insert USB, select the USB storage device, and then click "Start" to upgrade. When upgrade is completed, click "OK" then system will reboot.

3.8.4.4 Factory Setting

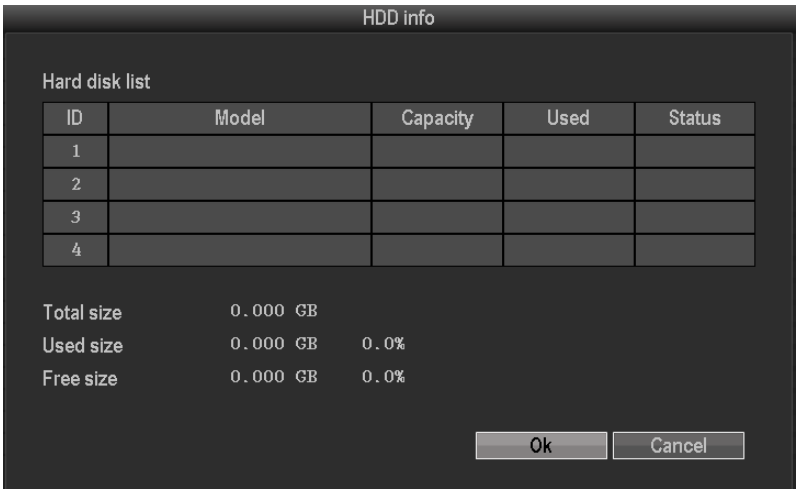
Select the options that need factory default setting, click "OK" to save and exit, or click "Cancel" to exit without saving.

Note: After factory setting, all of personal settings will be changed to factory default.

3.9 System Information

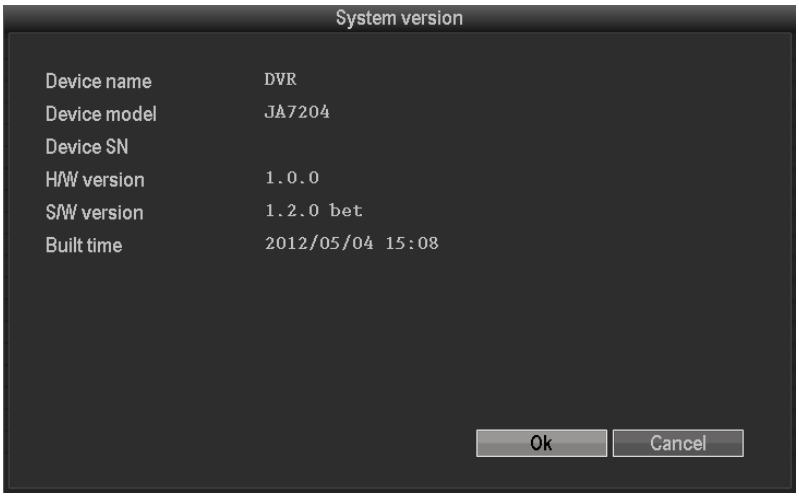
In the Menu, under "system information", there are HDD information, System information and Log information

3.9.1 HDD Information



The window demonstrates HDD status information

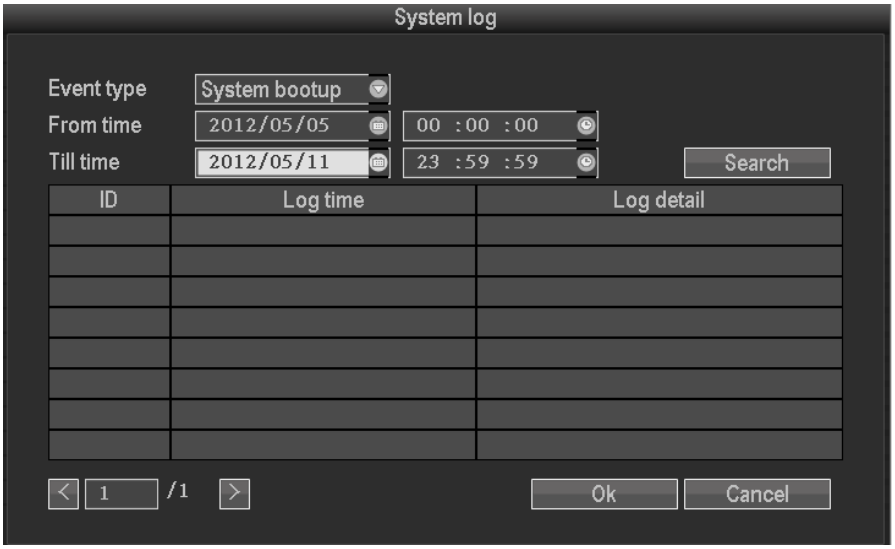
3.9.2 System Information



This window demonstrates DVR's Device name, Device model, H/W version, S/W version

3.9.3 System Log

Choose the log type which need to check from listbox, and input the time period in the editbox, then click "search", the related log information will show as below. You can turn the page by click "previous" and "next", or input target page to turn



3.10 System Logout

In the main menu, click “system logout", popup setting interface

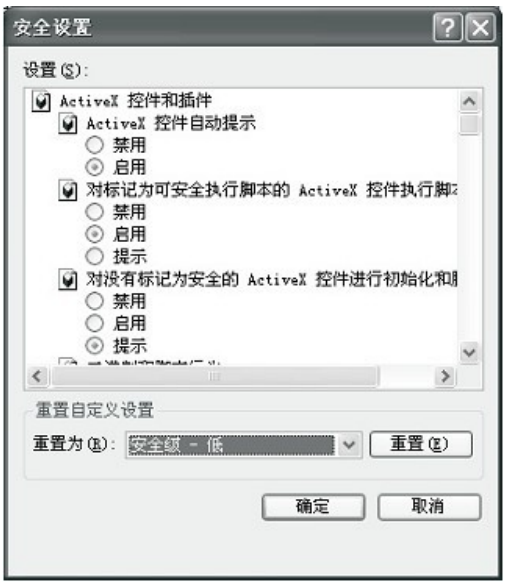
User logout: apply for logging users. After logout, if you want to use the device continue, need to login again

System reboot: It will reboot after "OK".

Chapter 4: Remote View

Do the following setup before you log in Esee on pc

IE setting, if use it for the first time, the software can't load, then need to make the following setting, Internet options-> safety-Internet-> custom options-> pick Active X and plugin all for opening, click ok



Login: Open IE browser and input www.e-seenet.com , enter log in webpage. Look at following picture, input Esee ID, user name and password, this user name and password is same with DVR log in user name and password. Input correct info, then login

Video monitoring homepage:

Monitoring homepage including: preview window, PTZ control, preview mode, code stream selection, channel opening, setting, playback, and user logout, as below:

1-1

Open preview：Click the target channel with mouse left, red color indicates select already. Double click the channel to open or close the corresponding preview channel, such as:

open;

close

Preview mode：Click to choose the mode, or double click preview window to switchover into multi-channel mode